

REMARKS

This is intended as a full, complete, and timely response to the Office Action dated May 23, 2003, having a shortened statutory period for response set to expire on August 23, 2003. Please reconsider the claims pending in the application for reasons discussed below.

In the specification, paragraphs [0032], [0034], [0036], and [0037] are amended to correct references to Figure 6. In the drawings, Figure 6 is corrected to remove undefined or duplicate reference numerals. Both a red line copy and a replacement sheet are attached.

Claims 1-19 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-21 of co-pending Application No. 10/006,023. Applicants acknowledge the provisional rejection and have attached a terminal disclaimer that is effective if both applications issue.

Claims 1-2, 4-5, and 7-10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Selwyn* (U.S. Patent No. 5,849,135) in view of *Kim* (U.S. Patent No. 5,927,308) and in further view of *Kimura, et al.* (U.S. Patent No. 5,908,657). The Examiner asserts that it would have been obvious for one of ordinary skill in the art at the time of invention to modify *Selwyn* by adding vacuum chucking and an air knife so as to have reliable chucking for rotating the substrate and have a simpler means of particle removal without plasma. Applicants traverse this rejection and respectfully submit that claims 1-2, 4-5, and 7-10 recite elements or limitations that are neither taught, shown, nor suggested by the cited references.

Selwyn discloses a chamber configured to remove particles from wafers via the use of plasmas and mechanical agitation. The chamber of *Selwyn* generally includes first and second electrodes 10, 12 in electrical communication with a power supply 18 such that a plasma may be generated between the respective electrodes. Electrode 12 is configured to support a wafer 14 so that the plasma generated between the electrodes may interact with the wafer. A conducting post 28 is in communication with electrode 12 and a mechanical vibrator 34, and therefore, post 28 operates to transmit vibrations generated by vibrator 34 to the electrode 12. Vibrator 34 is described as

generating vibrations in the kHz range, and in particular, vibrations at about 10 kHz. *Selwyn* does not disclose a hemispherical reinforcement member.

Kim discloses a substrate 10 placed atop an annular transducer 20. The transducer 20 is mounted on a vacuum chuck 23, which holds the substrate 10 in place during cleaning by an applied vacuum force. An oscillating electrical energy 25 drives the piezoelectric transducer 20 to produce acoustical energy, which is transmitted to the substrate 10. *Kim* does not disclose a hemispherical reinforcement member. The annular transducer 20 serves in the capacity of a substrate receiving member and therefore cannot be a reinforcement member attached or affixed to the under portion of the substrate receiving member.

Kimura, et al. discloses a wafer held stationary atop a spin chuck 102 by means of vacuum suction. The conical spin chuck 102 is rotated in performing a coating operation. Contrary to the Examiner's statement, *Kimura, et al.* does not disclose a hemispherical reinforcement member. The conical spin chuck 102 serves in the capacity of a substrate receiving member and therefore cannot be a reinforcement member attached or affixed to the under portion of a substrate receiving member. Consequently, the art relied upon by the Examiner does not disclose all of the elements of claim 1.

The reinforcement member 602 of the present invention supports the substrate support member 604, which supports the substrate 605 on its upper surface 606. The Examiner erroneously identified the transducer 20 of *Kim* and the spin chuck 102 of *Kimura, et al.* as reinforcement members. Neither component serves in the capacity of a reinforcement member, and neither is hemispherical. It is not obvious to modify the invention of *Selwyn* to include a reinforcement member because the combination of the above references would only suggest that the substrate receiving member could be modified. Therefore *Selwyn*, *Kim*, and *Kimura, et al.*, alone or in combination, do not teach, show, or suggest an annular substrate receiving member having an upper substrate receiving surface formed thereon, a hemispherical reinforcement member affixed to a lower surface of the substrate receiving member, and an elongated stem portion affixed at a distal end to the hemispherical reinforcement member, as recited in claim 1. Withdrawal of the rejection of claim 1 is respectfully requested.

Claims 2, 4-5, and 7-10 are dependent upon claim 1 and are patentable because claim 1 is patentable. Applicants respectfully request withdrawal of the rejection.

Claims 11-12, 14-15 and 19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Selwyn* (U.S. Patent No. 5,849,135) in view of *Kim* (U.S. Patent No. 5,927,308) and in further view of *Kimura, et al.* (U.S. Patent No. 5,908,657). The Examiner asserts that it would have been obvious for one of ordinary skill in the art at the time of invention to modify *Selwyn* by adding vacuum chucking and an air knife so as to have reliable chucking for rotating the substrate and have a simpler means of particle removal without plasma. Applicants traverse this rejection and respectfully submit that claims 11-12, 14-15 and 19 recite elements or limitations that are neither taught, shown, nor suggested by the cited prior art.

As stated above for claim 1, the Examiner erroneously identified the transducer 20 of *Kim* and the spin chuck 102 of *Kimura, et al.* as reinforcement members. Neither component serves in the capacity of a reinforcement member. It is not obvious to modify the invention of *Selwyn* to include a reinforcement member because combination of the above references does not include a reinforcement member for a substrate receiving member. Therefore, *Selwyn*, *Kim*, and *Kimura, et al.*, alone or in combination, do not teach, show, or suggest a substrate receiving member, a reinforcement member attached to an underside of the substrate receiving member, an elongated stem member attached to the reinforcement member, and an actuator device in communication with the elongated stem member, as recited in claim 11. Applicants respectfully request withdrawal of the rejection of claim 11.

Claims 12, 14-15 and 19 are dependent upon claim 11 and are patentable because claim 11 is patentable. Applicants respectfully request withdrawal of the rejection.

Claims 3 and 16-18 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Selwyn* (U.S. Patent No. 5,849,135) in view of *Kim* (U.S. Patent No. 5,927,308) and in further view of *Kimura, et al.* (U.S. Patent No. 5,908,657) as applied to claims 2 and 11 and further in view of *Jysky, et al.* (U.S. Patent No. 3,945,613). Claims 3 and 16-18 are dependent upon claim 1 and 11 and are therefore patentable because claim 1 and 11 are patentable. Applicants respectfully request withdrawal of the rejection.

Claims 6 and 13 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Selwyn* (U.S. Patent No. 5,849,135) in view of *Kim* (U.S. Patent No. 5,927,308) and in further view of *Kimura, et al.* (U.S. Patent No. 5,908,657) as applied to claims 4 and 12 and further in view of *Dyer, et al.* (U.S. Patent No. 5,800,623). Claims 6 and 13 are dependent upon claim 1 and 11 and are therefore patentable because claim 1 and 11 are patentable. Applicants respectfully request withdrawal of the rejection.

In conclusion, the references cited by the Examiner, neither alone nor in combination, teach, show, or suggest the method or apparatus of the present invention. Having addressed all issues set out in the office action, Applicants respectfully submit that the claims are in condition for allowance and respectfully request that the claims be allowed.

The prior art made of record is noted. However, it is believed that the secondary references are no more pertinent to the Applicants' disclosure than the primary references cited in the office action. Therefore, it is believed that a detailed discussion of the secondary references is not deemed necessary for a full and complete response to this office action. Accordingly, allowance of the claims is respectfully requested.

Respectfully submitted,



Keith Tackett
Registration No. 32,008
MOSER, PATTERSON & SHERIDAN, L.L.P.
3040 Post Oak Blvd., Suite 1500
Houston, TX 77056
Telephone: (713) 623-4844
Facsimile: (713) 623-4846
Attorney for Applicant(s)